



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/608,335

06/30/2003

Haru Ando

500.42880X00

8770

24956

7590

08/05/2008

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
1800 DIAGONAL ROAD
SUITE 370
ALEXANDRIA, VA 22314

EXAMINER

FRISBY, KESHA

ART UNIT

PAPER NUMBER

3714

MAIL DATE

DELIVERY MODE

08/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/608,335	Applicant(s) ANDO ET AL.	
	Examiner KESHA FRISBY	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,7 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,7 and 9-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

After the amendment was filed on 4/17/2008, claims 1, 3, 7, 9-17 are pending in this application. Claims 2, 4-6, 8 were previous cancelled and claims 16 & 17 were newly added.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 13, 14, 16 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obrador (U.S. Patent Number 6,585,521) in view of Freer (U.S. Patent Number 6,402,520), Ho et al. (U.S. Patent Number 5,944,530), Atsushi (Publication Number 09-149894: English Computer Translation from the Patent of Abstracts of Japan) and Zaltman (U.S. Patent Number 6,315,569).**

Referring to claim 1, Obrador discloses a learning condition judging program embodied on a computer readable medium, the program executable in an information processing apparatus, wherein the program is operable on the information processing apparatus to perform the steps of: starting a program (column 4 lines 61-64) in said information processing apparatus (computer 140), wherein the information processing apparatus is connected through an information acquiring means to a near infrared measuring device (column 3 lines 48-55), and is connected to a recording means (column 4 lines 52-61),

Art Unit: 3714

an input means (column 4 lines 64-67) and a display means (display device 210); acquiring input information and operation information given by said user to said information processing apparatus through said input means (column 4 line 64-column 5 line 1); acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said information processing apparatus (column 3 lines 44-48 & column 4 lines 1-8); judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information (column 3 lines 44-48).

Obrador does not disclose starting a learning program and displaying learning contents, wherein the input information and the operation information indicate progress of said learning program; continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time and recording said degree of concentration of the user and said attention information of the

user with said progress of said learning program in said recording means and recording said degree of concentration of the user and said attention information of the user said progress of said learning program in said recording means. However, Freer teaches starting a learning program (starting a low-stimuli educational exercise) and displaying learning contents within a predetermined window on said display means (abstract: low-stimuli education exercises are displayed on a computer monitor). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include starting a learning program and displaying the learning contents, as disclosed by Freer, incorporated into Obrador in order to increase the user's focus. *Obrador/Freer does not teach wherein the input information and the operation information indicate progress of said learning program; continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means; and analyzing a rate of change in hemoglobin concentration from said blood flow rate.* However, Ho et al. teaches wherein the input information and the operation information indicate progress of said learning program (column 7 lines 23-26 & column 12 lines 17-30) and recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means (Figs. 2A, 2B, the associated text, column 8 line 40 – column 11 line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the input information and the operation information indicate progress of said learning

program, as disclosed by Ho et al., incorporated into Obrador/Freer in order to determine the student's understanding level on the materials just presented to the student. *Obrador/Freer/Ho et al. does not teach continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means; and analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time.* However, Atsushi teaches continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means (abstract & Drawings 1-3, 6 & the associated text) and analyzing a rate of change in hemoglobin concentration from said blood flow rate (for example, paragraph 0006). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of a blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/Ho et al. in order to measure localized brain functions. *Obrador/Freer/Ho*

et al./Atsushi does not teach judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time. However, Zaltman teaches judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time (column 11 lines 41-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging when an event occurs within the predetermined window, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho *et al./Atsushi* in order to provides a means for measuring the relative processing contribution of each subregion to the task.

Referring to claim 13, Obrador discloses a near infrared measuring device (column 3 lines 48-53); a server connected to said terminal through a network (Figs. 1A, 1B & 2), wherein said server includes a recording means for recording contents information (storage 150); wherein said terminal includes: means for starting a learning program (column 4 lines 61-64), displaying learning contents within a predetermined window on said display means (display device 210), wherein said terminal includes: a display for

Art Unit: 3714

displaying said contents information received from said server (display device 210); input means for accepting input instructions and operation instructions for said displayed contents information (column 4 line 64-column 5 line 1) and means for acquiring audio or video information of said user so as to obtain user's attention information (column 3 lines 44-48 & column 4 lines 1-8) and wherein said server further includes: a storage for storing inputs from said input means, said measurement information from said near infrared measuring device, said acquired audio or video information as attention information of the user, and said displayed contents information at corresponding times in association with one another (storage 150). Obrador does not disclose a terminal connected to said near infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal; and continuously acquiring measurement information from said near infrared measuring device; input means for accepting input instructions and operation instructions for said displayed contents information, wherein the input instructions and operation instructions indicate progress of a user's learning of the contents information; and wherein said server further includes: means for analyzing a rate of change in hemoglobin concentration from said blood flow rate and judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, when said audio information includes predetermined audio information, whether a degree of concentration of the user to the contents information is higher than a predetermined degree, based on said measurement information from said near infrared measuring device and said attention information to determine that the user is in concentration time; and means for displaying

Art Unit: 3714

to said display said degree of concentration of the user and said attention information of the user with corresponding time of the contents. However, Freer teaches starting a learning program (starting a low-stimuli educational exercise) and displaying learning contents within a predetermined window on said display means (abstract: low-stimuli education exercises are displayed on a computer monitor). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include starting a learning program and displaying the learning contents, as disclosed by Freer, incorporated into Obrador in order to increase the user's focus. *Obrador/Freer does not teach a terminal connected to said near Infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal; and continuously acquiring measurement information from said near infrared measuring device and means for analyzing a rate of change in hemoglobin concentration from said blood flow rate, wherein the input information and the operation information indicate progress of said learning program; judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time. However, Ho et al. teaches wherein the input information and the operation information indicate progress of said learning program (column 7 lines 23-26 & column 12 lines 17-30) and recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in*

Art Unit: 3714

said recording means (Figs. 2A, 2B, the associated text, column 8 line 40 – column 11 line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the input information and the operation information indicate progress of said learning program, as disclosed by Ho et al., incorporated into Obrador/Freer in order to determine the student's understanding level on the materials just presented to the student. Obrador/Freer/Ho et al. does not a *terminal connected to said near Infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal (Drawings 1-3, 6 & the associated text); and continuously acquiring measurement information from said near infrared measuring device (Drawings 1-3, 6 & the associated text) and means for analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time.*

However, Atsushi teaches a terminal connected to said near Infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal (Drawings 1-3, 6 & the associated text); and continuously acquiring measurement information from said near infrared measuring device (Drawings 1-3, 6 & the associated text) and means for analyzing a rate of change in hemoglobin concentration from said blood flow rate (paragraph 0006). It would have been obvious to one of ordinary skill in the art at the

Art Unit: 3714

time the invention was made to include continuously acquiring, measurement information of a blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/Ho et al. in order to measure localized brain functions. *Obrador/Freer/Ho et al./Atsushi does not teach judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time.* However, Zaltman teaches judging, when an event occurs within the predetermined window, when a facial image of the user is recognized or when said audio information includes predetermined audio information, whether a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time (column 11 lines 41-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging when an event occurs within the predetermined window, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho et al./Atsushi in order to provides a means for measuring the relative processing contribution of each subregion to the task. Referring to claim 14, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches wherein said video information of the user is acquired as facial information or head behavior information of the user, and said camera judges as to whether the user is

present in front of the screen or not, the direction of the head of the user, and expression of the user (column 9 lines 13-35 of Ho et al.).

Referring to claims 16 & 17, Obrador, as modified by Freer, Ho et al., Atsushi and Zaltman, teaches further comprising a step of notifying the user if warning output through said display means when its is judged that the user is not in concentration time (column 13 lines 38-40 of Freer).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obrador in view of Ho et al., Atsushi and Zaltman.

Referring to claim 3, Obrador discloses acquiring operation information and input information given by said user to said terminal (column 4 line 64 – column 5 line 1) and acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said terminal (column 3 lines 44-48 & column 4 lines 1-8). *Obrador does not disclose acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging a degree of concentration of said user to said information of contents using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information; and displaying said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents.* Ho et al. teaches displaying said degree of concentration of the user and said attention information of the user with

Art Unit: 3714

corresponding time of said information of contents (column 11 lines 6-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to displaying degree of concentration, as disclosed by Ho et al., incorporated into Obrador in order to determine the student's degree of concentration in the study materials.

Obrador/Ho et al. does not teach acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal; analyzing a rate of change in hemoglobin concentration from said blood flow rate; judging a degree of concentration of said user to said information of contents using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information. Atsushi teaches acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal (Drawings 1-2, 6 & the associated text); analyzing a rate of change in hemoglobin concentration from said blood flow rate (for example, paragraph 0006). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of a blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Ho et al. in order to measure localized brain functions. Obrador/Ho et al./Atsushi does not teach judging a degree of concentration of said user to said information of contents using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information; and displaying said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents. Zaltman

Art Unit: 3714

teaches judging a degree of concentration of said user to said information of contents using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information (column 11 lines 41-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging a degree of concentration of said user, as disclosed by Zaltman, incorporated into Obrador//Ho et al./Atsushi in order to provides a means for measuring the relative processing contribution of each subregion to the task.

Referring to claim 7, Obrador, as modified by Ho et al., Atsushi and Zaltman, teaches giving notice to said user of said terminal in accordance with a result of said step of judging said degree of concentration (column 10 line 66-column 11 line 56 and more specific column 11 lines 34-47 of Ho et al.).

Referring to claims 9 & 10, Obrador, as modified by Ho et al., Atsushi and Zaltman, teaches further comprising a step of judging whether said input information is a correct answer to an exercise included in said learning contents or not is further provided (column 12 lines 17-30 of Ho et al.); and wherein said step of judging a degree of concentration also uses a result of the step of judging whether said input information is a correct answer (column 10 lines 23-25 & column 12 lines 31 & 32: the examiner views this limitation as whether the concentration degree ranges from low, medium to high of Ho et al.).

Referring to claims 11 & 12, Obrador, as modified by Ho et al., Atsushi and Zaltman, teaches displaying, on a display, information of said learning contents (monitor 178 of Ho et al.), said rate of correct answers for each exercise included in said learning

contents (column 11 lines 6-8 of Ho et al.), said rate of correct answers being obtained from the result of the step of judging whether said input information is a correct answer (column 11 lines 6-8 of Ho et al.).

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obrador/Freer/Ho et al./Atsushi/Zaltman and further in view of Shpiro (U.S. Publication Number 2002/0150869).

Referring to claim 15, Obrador/Freer/Ho et al./Atsushi/Zaltman discloses a learning condition judging program according to claim 1. *Obrador/Freer/Ho et al./Atsushi/Zaltman does not disclose wherein said audio information of the user is acquired as text information which is extracted from voice of the user through said microphone.* However, Shpiro teaches wherein said audio information of the user is acquired as text information which is extracted from voice of the user through said microphone (paragraph 0040). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a microphone, as disclosed by Shpiro, incorporated into Obrador/Freer/Ho et al./Atsushi/Zaltman in order to display what the user is saying on the screen.

Response to Arguments

4. Applicant's arguments, see Remarks, filed 4/17/2008, with respect to 35 USC 112 first paragraph have been fully considered and are persuasive. The rejection of 35 USC 112 first paragraph has been withdrawn.

5. Applicant's arguments with respect to claims 1, 3, 7, 9-17 have been considered but are moot in view of the new ground(s) of rejection.

Citation of Pertinent Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jacobs et al. (U.S. Patent Number 5,571,682) teaches calibrating and testing immunoassays to minimize interferences.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KESHA FRISBY whose telephone number is (571)272-8774. The examiner can normally be reached on Monday-Friday 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. F./

Examiner, Art Unit 3714

/XUAN M. THAI/

Supervisory Patent Examiner, Art Unit 3714